

WHAT IS CLAIMED IS:

1. A spring holding connector comprising:
  - a housing having a bore therethrough;
  - 5 a shaft rotatably and slidably received in said bore;
  - a circular groove formed in one of said bore and shaft;
  - a circular spring disposed in said groove for
  - 10 slidably holding said shaft within said bore;
  - said groove being sized and shaped for controlling, in combination with a spring configuration, shaft mobility within said bore.
- 15 2. The connector according to claim 1 wherein said spring is turnable in said groove for causing forces required to move the shaft within said bore to be dependent upon a direction of the movement.
- 20 3. The connector according to claim 1 wherein said spring is compressible in said groove for causing forces required to move the shaft within said bore to be dependent upon a direction of the movement.
- 25 4. The connector according to claim 2 wherein the movement is axial.
5. The connector according to claim 3 wherein the movement is axial.

6. The connector according to claim 1 wherein said spring is turnable in said groove for enhancing electrical conductivity between said shaft and said housing by removing  
5 oxidation on said spring.

7. The connector according to claim 6 wherein said groove includes an uneven bottom for scraping said spring as said spring turns therepast.  
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8. The connector according to any one of claims 1-6 wherein said spring is a counterclockwise radial spring.

9. The connector according to any one of claims 1-6  
15 wherein said spring is a clockwise radial spring.

10. The connector according to any one of claims 1-6 wherein said spring is an axial spring having a back angle at an inside diameter of spring coils and a front angle on an  
20 outside diameter of the spring coils.

11. The connector according to any one of claims 1-6 wherein said spring is an axial spring having a back angle on an outside diameter of spring coils and a front angle on an  
25 inside diameter of the spring coils.

12. The connector according to claim 5 wherein said groove is sized and shaped for causing, in combination with a spring configuration, a force required to move the shaft in

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one axial direction to be greater than 300% of a force required to move the shaft in an opposite axial direction.

13. The connector according to claim 12 wherein said  
5 groove has a tapered bottom.

14. The connector according to claim 13 wherein said  
spring is axial spring having a back angle at an inside  
diameter of spring coils and a front angle on an outside  
10 diameter of the spring coils.

15. The connector according to claim 13 wherein said  
spring is an axial spring having a back angle at an outside  
diameter of spring coils and a front angle on an inside  
15 diameter of the spring coils.

16. The connector according to claim 1 wherein said  
groove has a flat bottom.

20 17. The connector according to claim 1 wherein said  
groove has a V-bottom.

18. The connector according to claim 1 wherein said  
groove has a tapered V-bottom groove.

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19. The connector according to claim 1 wherein said  
groove has a semi-tapered bottom.

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20. The connector according to claim 1 wherein said groove has a round bottom with a shoulder therein.

21. The connector according to claim 1 wherein said  
5 groove has an inverted V-bottom.

22. The connector according to claim 1 wherein said groove has a V-bottom with different angle subtending sides of said grooves.  
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23. The connection according to claim 1 wherein said groove is a dovetail groove.

24. The connector according to claim 1 wherein said  
15 groove includes an inwardly facing lip disposed opposite a groove bottom.